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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,583	04/12/2004	Richard Hutchison	ITW 7247.63	2647
23721	7590	10/19/2004	EXAMINER	
CORRIGAN LAW OFFICE 5 BRIARCLIFF CT APPLETON, WI 54915			SHAW, CLIFFORD C	
			ART UNIT	PAPER NUMBER
			1725	

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/822,583	<b>Applicant(s)</b> HUTCHISON ET AL.	
	<b>Examiner</b> Clifford C Shaw	<b>Art Unit</b> 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 48-67 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 48-50, 54-57, and 59-67 is/are rejected.
- 7) ☒ Claim(s) 51-53 and 58 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7/26/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>0708</u> | 6) <input type="checkbox"/> Other: ____  |

### **Detailed Action**

1.) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2.) Claims 64 and 65 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 64, line 3, there is no antecedent basis for "each drop", making it unclear what the scope of the claim is. Claim 65 is a method claim, but it depends from apparatus claim 60, making it unclear what the scope of the claim is.

3.) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4.) Claims 48-50, 54-57, 59-63, 66, and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogasawara et al. (4,546,234, cited by applicant). Figures 3, 8, and 11 and the discussion at columns 4-6 of the patent to Ogasawara et al. (4,546,234) disclose a method and apparatus for short circuit transfer welding with features claimed including a power source 101 or 20, a feedback circuit with voltage and current inputs at elements 6-18 in figure 8 or elements 111-116 in figure 11, a controller necessarily associated with the output of the feedback circuit to control the power supply to produce two separate waveforms, one for the short circuiting output

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mode, the other for the arcing mode. The claims differ from Ogasawara et al. (4,546,234) in calling for the two output waveforms to be “a current waveform” and to be “a voltage waveform”. These limitations are broad enough to be obvious over the teachings of the patent to Ogasawara et al. (4,546,234). In figure 3 of Ogasawara et al. (4,546,234), the short circuiting and the arcing waveforms are shown to have both current and voltage aspects. It is considered obvious that the short circuit waveform be considered “a current waveform” since this output mode has a current aspect and that the arcing waveform be considered “a voltage waveform” since this output mode has a voltage aspect. This designation of the waveforms would be based on an arbitrary and therefore obvious choice of terminology derived from the aforementioned fact that each of the waveforms has voltage and current characteristics.

5.) Claims 51-53 and 58 are objected to for depending from rejected claims, but would be given favorable consideration if recast in independent form to include all of the limitations of the parent claims. None of the prior art of record teaches the limitations associated with determining the heat input to each drop as set forth in the claims and combined with the other claim features.

6.) Claim 64 would be given favorable consideration if suitably amended to overcome the rejection under 35USC112 above and if placed in independent form to include all of the limitations of the parent claims. None of the prior art of record teaches the limitations associated with determining the heat input to each drop as set forth in the claim and combined with the other claim features.

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7.) Claim 65 is too inadequate under 35USC112, second paragraph for any prior art to be applied thereto.

Any inquiry concerning this communication should be directed to Clifford C Shaw at telephone number 571-272-1182. The examiner can normally be reached on Monday through Friday of the first week of the pay period and on Tuesday through Friday of the second week of the pay period.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Thomas G. Dunn, can be reached at 571-272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Clifford C Shaw  
Primary Examiner  
Art Unit 1725

October 18, 2004